

REMARKS

Applicant has amended the claims to overcome the rejections cited by the Examiner. Applicant's invention comprises at least four elements that are not found in any reference or combination of references: (1) the bumper extends above the top cover (see, e.g., Applicant's specification at p.3, para.6; p.4, para.12; p.5, para.15, 17; p.10, para.34, p.11, para.36-37); (2) the bumper is formed from two different materials having different properties (p.9, para.31-32); (3) the bumper has guide rails that work in conjunction with guide features on the connector (p.4, para.12-13; p.5, para.15; p.6, para.19; p.12, para.39-41; p.13, para.42); and (4) the fasteners extend through the bumper and the connector (p.5, para.16; p.8, para.29; p.10, para.33, 35).

In contrast with regard to element (1), the cited primary reference to *Bicknese* clearly shows (Figure 4) that its shock rails 16 has only a fraction of the vertical thickness of its drive 10, which cannot possibly protect the drive from vertical impacts. Moreover, the drive 10 has the same thickness as channel 24, and *Bicknese* specifically states that "All around protection of the DASD 10 is not possible while still meeting the requirements of the PCMCIA standard." Col.6, lines 18-21.

With regard to element (2), *Bicknese* does not show, describe or suggest the use of anything other a single material for its shock rails 16. As for element (3), *Bicknese* uses reinforcement members 33, 34 (Figure 3) for alignment to maintain the keying arrangement. Col.5, lines 10-31. Finally, *Bicknese* does not show or describe element (4) since it does not show or describe any fasteners, much less fasteners that extend through its shock rails 16.

Similarly, the secondary reference to *Diel* discloses an elastomer 52 having a thickness equal to the thickness of its drive (see, e.g., Figures 4-6), such that *Diel* cannot satisfy Applicant's first element. Col.3, line 65 – col.4, line 12. With regard to element (2), *Diel* (like *Bicknese*) also is silent on the use of more than one material to form its elastomer 52. With

regard to Applicant's element (3), *Diel* appears to be press-fit into chassis 18 (Figure 2) such that elastomer 16 is compressed. Col.3, lines 27-31. Finally, *Diel's* fasteners 40 (Figure 3) clearly do not extend through its elastomer 52.

The third and final cited reference to *Bennett* is not even directed to PCMCIA applications. Rather, that reference appears to be directed to shock protection for conventional disk drives. This is an important distinction since any shock protection used by a drive must not affect the very strict form factor requirements for PCMCIA applications. In *Bennett*, Figures 2 and 3 depict a thick foam layer 248 that is obviously an internal component that significantly increases the thickness of the drive. Since foam 248 is not external, it cannot satisfy Applicant's element (1). As for element (2), this reference like the others only discloses a single material for its foam. With regard to the third element, the foam 248 cannot provide guide features since it is internal. Moreover, since *Bennett* is not about PCMCIA, what would the foam be used to guide? Finally, with regard to the fourth element, *Bennett's* Figure 2 clearly shows fasteners 238 located outside of foam 248 such that they cannot extend through the foam.

Accordingly, each of Applicant's claims contains one or more of the previously described elements and readily overcome the cited prior art. For example, Claim 1 requires the second element by specifying that the "the frame bumper is formed from a core material having a high hardness and an elastic material having a relatively lower hardness than the core material." Since none of the references show or describe this element, Claim 1 is now in condition for allowance. Dependent Claim 6 even further modifies this element to name specific materials.

Dependent Claim 2 adds the first element by requiring the frame bumper to protrude beyond the sides and top cover "in the x and z directions by a distance in a range of 0.5 to 1 mm." Again, only three of the references have lateral shock absorption but none have vertical

protection beyond their respective top covers. Claim 3 addresses the third element, namely, that the frame bumper "has a pair of guide rails that perform a guide function of detachably mounting the disk drive in a PC card." In contrast, only *Bicknese* addresses this issue, but it requires reinforcement members 33, 34 (Figure 3) for alignment to maintain the keying arrangement. Col.5, lines 10-31. Claim 4 extends Applicant's third element to include the guide function to "both the frame bumper and the connector [for] detachably mounting the disk drive in the PC card." Claim 5 adds the fourth element described above by requiring the functional unit to have "a connector, and the nut extends through the connector." None of the cited references show, describe or suggest such a configuration. Each of these claims are now in condition for allowance.

Independent Claim 7 incorporates features of both the first and third elements of the invention by requiring the connector to have "tapered guide features that provide a guiding function for the storage medium relative to the PC card," and "the elastic member extends beyond a functional unit of the storage medium in the x and z directions." Dependent Claim 9 further develops the third element, while Claim 10 narrows the scope by refining the first element. In addition, Claims 11 and 12 are directed to the features of elements (2) and (4), respectively. Finally, independent Claim 13 thoroughly develops the first element, while Claims 15, 16, and 17, are focused on the second and third elements, respectively.

It is respectfully submitted that the present application is in condition for allowance and favorable action is requested. No fee for an extension of time or any other fees are believed to be required. However, in the event that any additional fees are required, please charge them to **Hitachi Global Storage Technologies' Deposit Account Number 50-2587.**

Respectfully submitted,



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